

CLAIMS

1. A method of introducing mercury into internal space of an electron lamp with the use of glass capsules containing liquid mercury and disposed each within a metal container, one end of said container being provided with at least one opening whose diameter is much less than the diameter of a glass capsule, characterized in that prior to vacuum treatment at least one of said glass capsules is mounted in an exhaust tube in close proximity to an exposed electrode in such manner that the opening provided in the metal container is facing the working area of the tube, and upon carrying out vacuum treatment and filling the inner space with an inert gas, the portion of the exhaust tube that contains the capsule is separated from an evacuation unit, and this area is subjected to the local effect of a high-power electromagnetic radiation, thereby causing substantially instantaneous heating of the metal container, which results in a rupture of the glass capsule and intense evaporation of the liquid mercury, thereby resulting in a directional flow of pure mercury vapor, which flow rapidly fills up said inner space of the lamp, and the process of introduction is completed by separating the remaining portion of said exhaust tube with said metal container from said electron lamp.

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2. The method as set forth in Claim 1, characterized in that the amount of mercury contained in the glass capsule is within the range from about 2.5 mg to about 35 mg.

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3. The method as set forth in Claim 1, characterized in that the glass capsule is filled up with mercury with the use of a vacuum method.

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4. The method as set forth in Claim 1, characterized in that the local electromagnetic radiation is provided by a high-frequency induction heating unit having a power rating within the range from about 500 W to about 1 kW.

5. A method of introducing mercury into internal space of neon tube with the use of glass capsules containing liquid mercury and disposed each within a

metal container, one end of said container being provided with at least one opening whose diameter is much less than the diameter of a glass capsule, characterized in that prior to vacuum treatment of the internal space of said neon tube, at least one of said glass capsules containing mercury in an amount of about 2.5 mg to about 35 mg is mounted in an exhaust tube in close proximity to an exposed electrode in such manner that the opening provided in the metal container is facing the working area of the neon tube, and upon carrying out vacuum treatment and filling the tube with an inert gas, the portion of the exhaust tube that contains the capsule is separated from an evacuation unit, and this area is placed inside an induction coil of a high-frequency induction heating unit, thereby causing a short-term induction effect at a power rating within the range from about 500 W to about 1 kW, which results in a rupture of the glass capsule and intense evaporation of the liquid mercury contained therewithin, thereby resulting in a directional flow of pure mercury vapor, which flow rapidly fills up said inner space of the tube, and the process of mercury introduction is completed by separating the remaining portion of said exhaust tube with said metal container from said neon tube.